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ABSTRACT

A study was conducted at South Carolina's Technical College of the Lowcountry to compare the success rates of students enrolled in distance education courses to those of students in traditional courses. Average grades, completion rates, and withdrawal rates were analyzed for students in 11 courses, with outcomes compared for students enrolled in distance sections in fall 1996, and traditional sections taught by the same instructor the previous fall. Results indicated that distance students' average grades were .27 points higher than those received by students in traditional courses. Students in distance courses also had higher completion rates than traditional students, with 75% of the 220 distance students and 72% of the 457 traditional students successfully completing the course. Withdrawal rates, however, were higher for distance students, with 21% withdrawing, compared to 19% of the traditional students. Data tables showing average grades, success rates, and withdrawal rates by section; grade distributions; and grade distribution percentages are included. (BCY)

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Analysis of Student Success in Distance Learning Courses Compared to Traditional Courses

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Introduction

The Research Office at the Technical College of the Lowcountry analyzed student success in Fall 1996 distance learning courses. Eight courses were broadcast from the college; French (FRE101) was received from another college; MAT102 was taught via videocassettes. Average grades, completion rates, and withdrawal rates for students in distance learning courses were compared with traditional courses taught by the same instructor during the previous Fall semester.

Results

Results on shown in Table 1.

TABLE 1
Course Grades and Student Success Rates

Course	Average Grade/(N[1])		Completion Rate[2]		Withdrawal Rate[3]	
	Fall 1995 Traditional	Fall 1996 Distance	Fall 1995 Traditional	Fall 1996 Distance	Fall 1995 Traditional	Fall 1996 Distance
CRJ115	2.57 (23)	3.15 (14)	78%	93%	0%	7%
EVT101	3.80 (5)	3.25 (9)	100%	88%	0%	22%
FRE101	([4])	2.75 (8)		50%		50%
LEG233	2.94 (19)	3.30 (24)	79%	96%	21%	4%
MAT51	2.56 (79)	2.67 (8)	61%	38%	24%	13%
MAT101	2.09 (111)	2.31 (32)	70%	75%	16%	19%
MAT102	2.48 (38)	1.90 (23)	71%	26%	18%	57%
MGT101	2.46 (44)	1.83 (28)	75%	71%	9%	14%

Course	Average Grade/(N[1])		Completion Rate[2]		Withdrawal Rate[3]	
	Fall 1995 Traditional	Fall 1996 Distance	Fall 1995 Traditional	Fall 1996 Distance	Fall 1995 Traditional	Fall 1996 Distance
OST137	2.88 (30)	3.77 (17)	70%	76%	17%	12%
PSC201	2.90 (15)	2.95 (26)	60%	77%	33%	23%
PSY201	2.51 (93)	2.81 (39)	80%	92%	13%	5%

[1]N=Total number of students enrolled
[2]Completion Rate = Grades [(A-D)/N] * 100
[3]Withdrawal Rate =Withdrawals/N * 100
[4]FRE101 was received via T1 and had not been offered in Fall 1995

A t-test for independent samples showed that average grades were .27 points higher in distance learning courses compared with the traditional control courses. Referring to Table 2, the difference is significant at $p < 0.05$.

Table 2
T-tests for Independent Samples Comparing Mean Grade Achieved in Traditional Versus Distance Learning Formats

Variable	Number of Cases	Mean	SD	SE of Mean
TRADITIONAL	386	2.4793	1.375	.070
DISTANCE EDUCATION	177	2.7458	1.176	.088

Mean Difference = -.2665

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.23	561	.026	.119	(-.501, -.032)
Unequal	-2.36	394.88	.019	.113	(-.488, -.045)

Although performance in distance learning courses was on the average higher, students in

EVT101, MAT102, and MGT101 did less well in distance learning sections, as shown in Figure 1, and FRE101, a telecourse received via T1, had an unusually high withdrawal rate of 50%. Because of the small sample sizes in certain courses and large variations in class size, the use of analysis of variance was not appropriate. The differences for EVT101 may be explained by the small number of students sampled (N_1 =5, N_2=9), the discrepancies for MAT102 and MGT101 suggest the need for further evaluation.

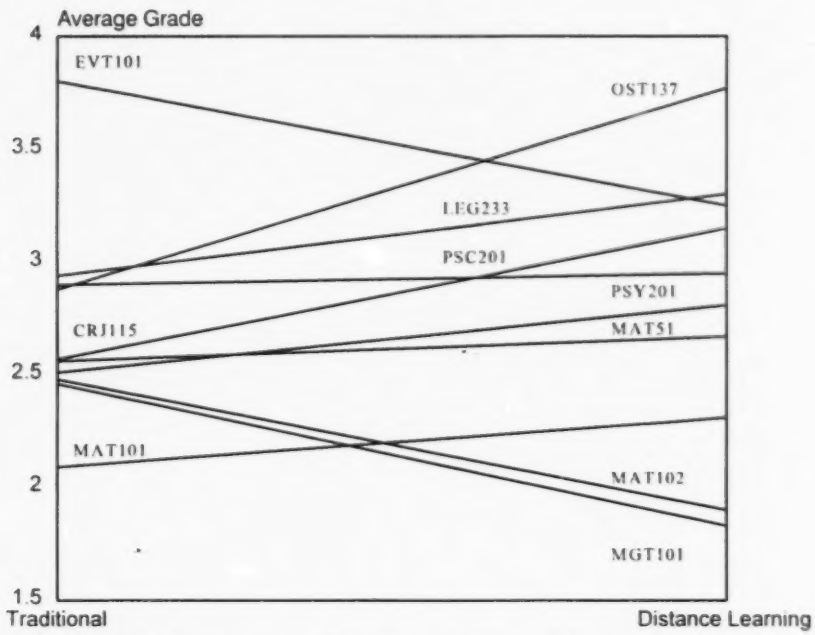

Figure 1. Average Grade in Traditional Versus Distance Learning Courses

The grade distributions for the distance learning and control courses are shown in Tables 3 and 4. Table 3 shows the number of students receiving particular grades in each course. Table 4 shows the grade distributions as the percentage of students receiving particular grades.

TABLE 3
Grade Distribution for Distance Learning (96.1) and Control Courses (95.1)

COURSE	A	B	C	D	F	W F	C F	I	W
CRJ115 95.1	8	7	3	0	5	0	0	0	0
CRJ115 96.1	8	0	4	1	0	0	0	0	1
EVT101 95.1	4	1	0	0	0	0	0	0	0
EVT101 96.1	4	3	0	1	0	0	0	0	1
FRE101 96.1	2	0	1	1	0	0	0	0	4
LEG233 95.1	7	6	2	0	0	2	0	0	2
LEG233 96.1	9	12	2	0	0	0	0	0	1
MAT51 95.1	12	26	10	0	1	8	11	0	11
MAT51 96.1	0	2	1	0	0	0	4	0	1
MAT101 95.1	21	17	26	14	15	15	0	0	3
MAT101 96.1	3	7	13	1	2	0	0	0	6
MAT102 95.1	9	9	5	4	4	2	0	0	5
MAT102 96.1	2	3	1	0	4	0	0	0	13
MGT101 95.1	11	12	6	4	6	0	0	0	5
MGT101 96.1	1	6	9	4	4	0	0	0	4
OST101 95.1	15	3	0	3	4	0	0	0	5
OST101 96.1	11	1	1	0	0	0	0	2	2
PSC201 95.1	3	5	1	0	1	0	0	0	5
PSC201 96.1	10	4	4	2	0	1	0	0	5
PSY201 95.1	20	27	20	7	7	2	0	0	10
PSY201 96.1	11	11	10	4	0	0	0	1	2

TABLE 4

Grade Distribution Percentages for Distance Learning (96.1) and Control Courses (95.1)

COURSE	A	B	C	D	F	WF	CF	I	W
CRJ115 95.1	35%	30%	13%	0%	22%	0%	0%	0%	0%
CRJ115 96.1	57%	0%	29%	7%	0%	0%	0%	0%	7%
EVT101 95.1	80%	20%	0%	0%	0%	0%	0%	0%	0%
EVT101 96.1	44%	33%	0%	11%	0%	0%	0%	0%	11%
FRE101 96.1	25%	0%	13%	13%	0%	0%	0%	0%	50%
LEG233 95.1	37%	32%	11%	0%	0%	11%	0%	0%	11%
LEG233 96.1	38%	50%	8%	0%	0%	0%	0%	0%	4%
MAT51 95.1	15%	33%	13%	0%	1%	10%	14%	0%	14%
MAT51 96.1	0%	25%	13%	0%	0%	0%	50%	0%	13%
MAT101 95.1	19%	15%	23%	13%	14%	14%	0%	0%	3%
MAT101 96.1	9%	22%	41%	3%	6%	0%	0%	0%	19%
MAT102 95.1	24%	24%	13%	11%	11%	5%	0%	0%	13%
MAT102 96.1	9%	13%	4%	0%	17%	0%	0%	0%	57%
MGT101 95.1	25%	27%	14%	9%	14%	0%	0%	0%	11%
MGT101 96.1	4%	21%	32%	14%	14%	0%	0%	0%	14%
OST101 95.1	50%	10%	0%	10%	13%	0%	0%	0%	17%
OST101 96.1	65%	6%	6%	0%	0%	0%	0%	12%	12%
PSC201 95.1	20%	33%	7%	0%	7%	0%	0%	0%	33%
PSC201 96.1	38%	15%	15%	8%	0%	4%	0%	0%	19%
PSY201 95.1	22%	29%	22%	8%	8%	2%	0%	0%	11%
PSY201 96.1	28%	28%	26%	10%	0%	0%	0%	3%	5%

Conclusions

Students received on the average higher grades ($\Delta = 0.26$) in distance learning sections. Students in distance learning sections also had higher completion rates — In the traditional classes 72% of the 457 enrolled students were successful completers; in the distance learning classes 75% of the 220 students enrolled students were successful. Withdrawal rates were, however, higher in distance learning courses (21% versus 19%).